

ORANGE COUNTY SANITATION DISTRICT

ANNUAL REPORT 2014-2015



resource recovery

MORE THAN A SEWAGE TREATMENT PLANT



Message from the General Manager



I am pleased to present the Orange County Sanitation District's (OCSD) Annual Report for Fiscal Year 2014-15. This Report highlights the progress our agency has made during the past year, and provides a preview of our initiatives for the current year.

The Sanitation District's role as a water resource recovery agency has grown in importance during this historic drought, providing an essential part of our community's water supply. During the past year, we have provided highly treated effluent to the Orange County Water District for the production of enough water to replenish our groundwater supplies to meet the needs of a population of 600,000. In June 2015, the Groundwater Replenishment System (GWRS) operations were expanded, and this year is on track to supply enough water for a population of 850,000.

In addition, our operations generated renewable electricity equivalent to the demand of roughly 11,000 homes, and over 90 percent of the solids produced in our treatment process were recycled as a soil amendment and compost for use on agricultural lands.

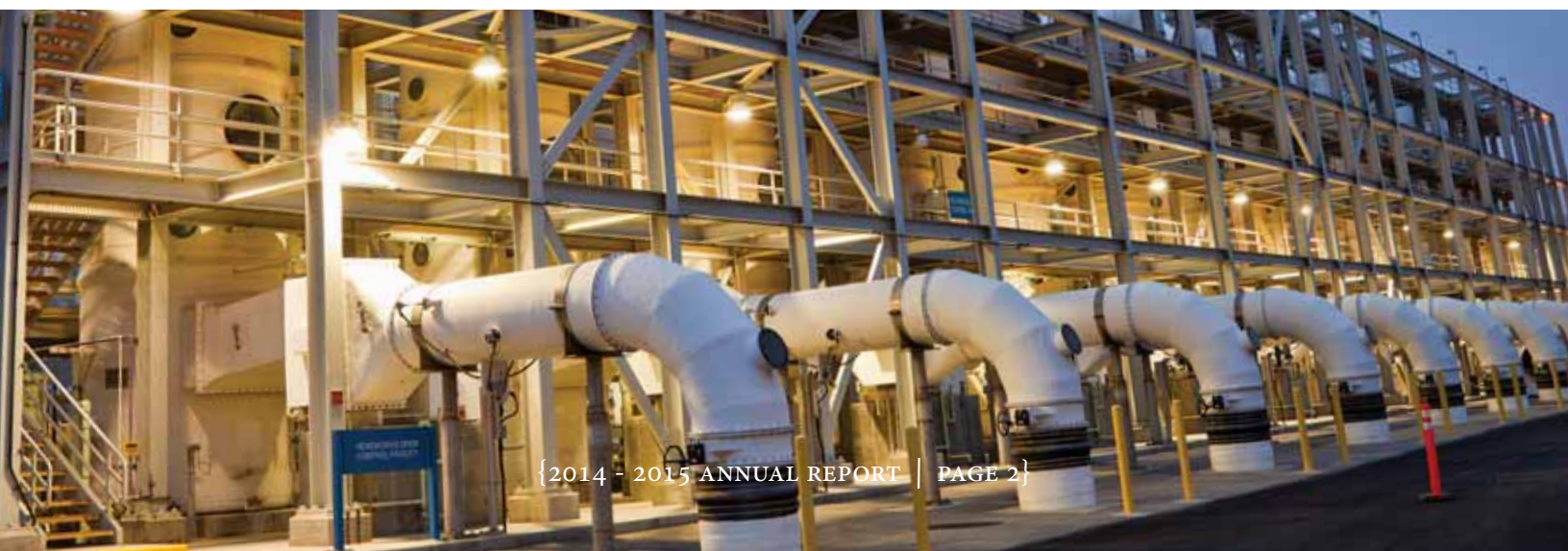
Protecting public health and the environment are critical to our mission, and I am pleased to report that our ocean monitoring program shows that the ocean is healthy around OCSD's ocean outfall. We also continue to be strong financially. This year OCSD received AAA bond ratings and we have reduced our long term pension liabilities, which in turn enabled us to reduce planned rate increases by 35 percent over the next three years.

Our Board of Directors remain committed to sustaining and improving our performance into the future. To meet the Board's vision, we will continue to move forward focusing on the areas of safety and security, succession planning, resource recovery, reliability and operational optimization in the coming year.

The successes that are laid out in this Report would not be possible without the collective dedication and effort of our workforce and the commitment and support of our Board of Directors and the public we serve.

A handwritten signature in black ink that reads "James Herberg". The signature is written in a cursive style.

James D. Herberg, General Manager



who we are

The Orange County Sanitation District (OCSD) is a public agency that provides wastewater collection, treatment, and recycling for 2.5 million people in central and northwest Orange County. OCSD is a special district that is governed by a 25 member Board of Directors comprised of 20 cities, four special districts, and one representative from the Orange County Board of Supervisors. OCSD has two operating facilities that treat wastewater from residential, commercial and industrial sources. The wastewater from these communities travel through 587 miles of regional sewers to either the reclamation plant in Fountain Valley or the treatment plant in Huntington Beach where it is treated and sent for water recycling or released into the Pacific Ocean.

Our Mission and Vision Statement

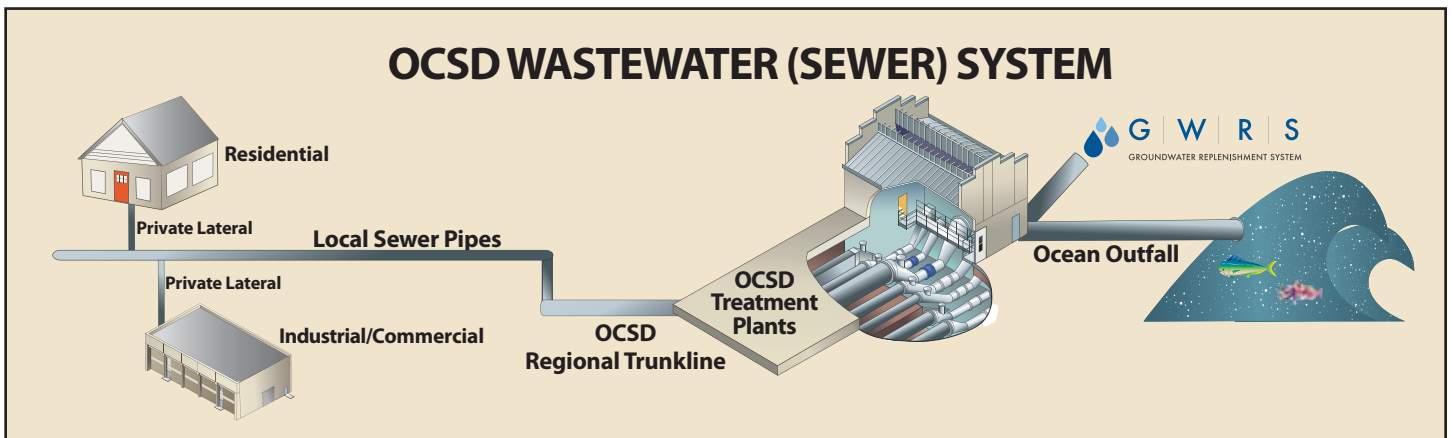
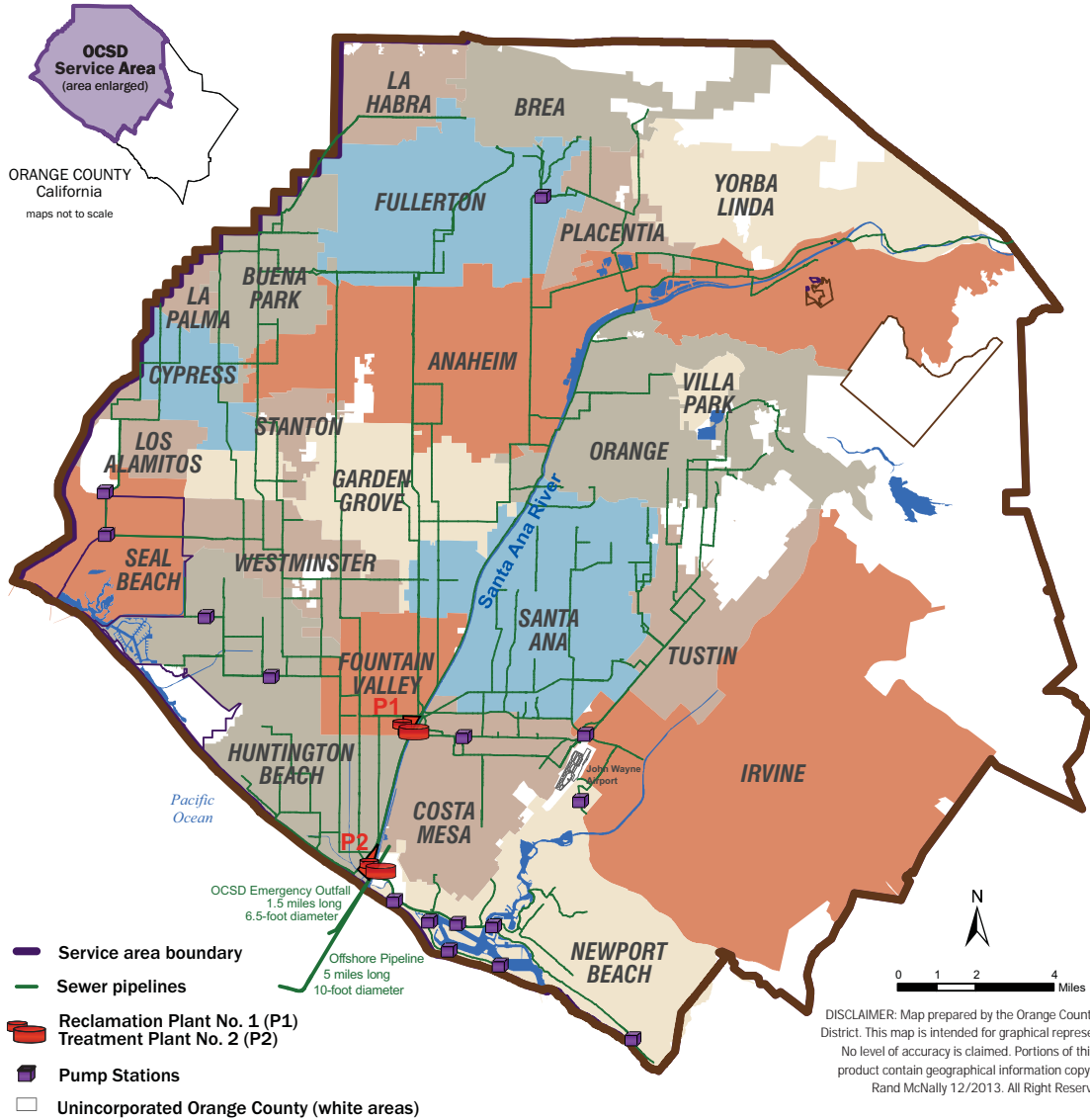
To protect public health and the environment by providing effective wastewater collection, treatment, and recycling.

Our Vision Statement supports the Mission Statement by expressing a broad philosophy of what the Orange County Sanitation District strives to achieve in the delivery of services to our customers, vendors, other agencies, the general public and each other.

ORANGE COUNTY SANITATION DISTRICT WILL LEAD BY:

- Providing reliable, responsive and affordable services in line with customer needs and expectations.
- Protecting public health and the environment utilizing all practical and effective means for wastewater, energy, and solids resource recovery.
- Continually seeking efficiencies to ensure that the public's money is wisely spent.
- Communicating our mission and strategies with those we serve and all other stakeholders.
- Partnering with others to benefit our customers, this region, and our industry.
- Creating the best possible workforce in terms of safety, productivity, customer service, and training.

service area



resource recovery

Our operations are focused on capturing, recycling and reusing the products from the wastewater treatment process.



water resource recovery

Water reliability is the foundation of a vibrant and growing community, and OCSD has become an important part of maintaining water reliability in the region. Through our partnership with the Orange County Water District (OCWD), OCSD has invested in and supported the development of the Groundwater Replenishment System (GWRS). OCSD and OCWD work together to manage the quality of water sources, employ state-of-the-art water purification processes, optimize facility operations and maintenance, and conduct rigorous water-quality testing.

In 2008, OCWD and OCSD made history with the commissioning of GWRS, the world's largest advanced water purification facility of its kind, which takes treated wastewater and purifies it to meet and exceed state and federal drinking water standards.

This year, the initial expansion of GWRS was completed allowing for OCWD to receive nearly 130 million gallons per day of secondary treated effluent from OCSD, in turn increasing the GWRS production water from 70 million gallons per day to 100 million gallons per day, producing enough water for 850,000 people in Orange County.

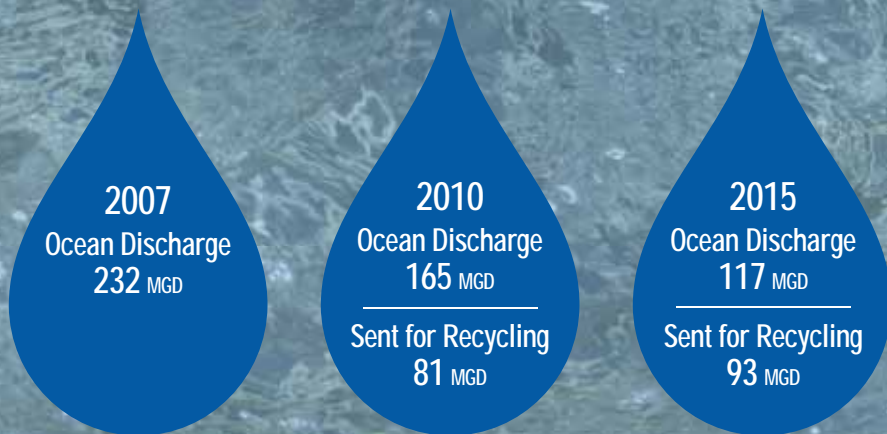
Today, through GWRS, more than 50 percent of the total wastewater flow that we receive is recycled.

We are suppliers of new water — providing for the Groundwater Replenishment System to recycle for Orange County's water needs.





Less Waste More Recycling



MGD: Million Gallons Per Day



solids resource recovery

Biosolids are nutrient-rich treated organic material recovered through the treatment of wastewater that can be recycled as a soil amendment.

OCSD continues to cut costs by using cost effective management tools. We closed out Fiscal Year 2014-15 at 94 percent of our allocated \$18.32 million budget for biosolids management, which includes hauling and offsite contractor costs. This resulted in an overall cost savings of \$1.1 million.

We are producers of soil amendments for agricultural use.

OCSD's Management Portfolio



Synagro
Compost 43%
Average cost
\$73/ton Total cost
\$8.7 million



Tule Ranch
Farmland Application
(growing hay) 48.5%
Average cost \$55/ton
Total cost \$7.3 million



Orange County
Landfill with
biogas recovery
for energy 8.5%
Average cost \$53/ton
Total cost \$1.2 million

energy resource recovery

OCSD is able to provide approximately 66 percent of the power required for operations through our on-site generation facilities, saving \$1 million per year.

The cost of energy to run our treatment facilities is a significant part of the annual operations and maintenance budget. As such, we continuously strive to improve the efficiency and cost-effectiveness of our operations, while ensuring compliance with strict environmental regulations as well as conservation of natural resources.

This year alone, OCSD produced an average of 11,000 kilowatts of energy every day from burning methane gas and natural gas. This is enough energy to power approximately 11,000 homes.

We are energy producers — producing biogas, a natural byproduct of the treatment process, which fuels our treatment facilities.

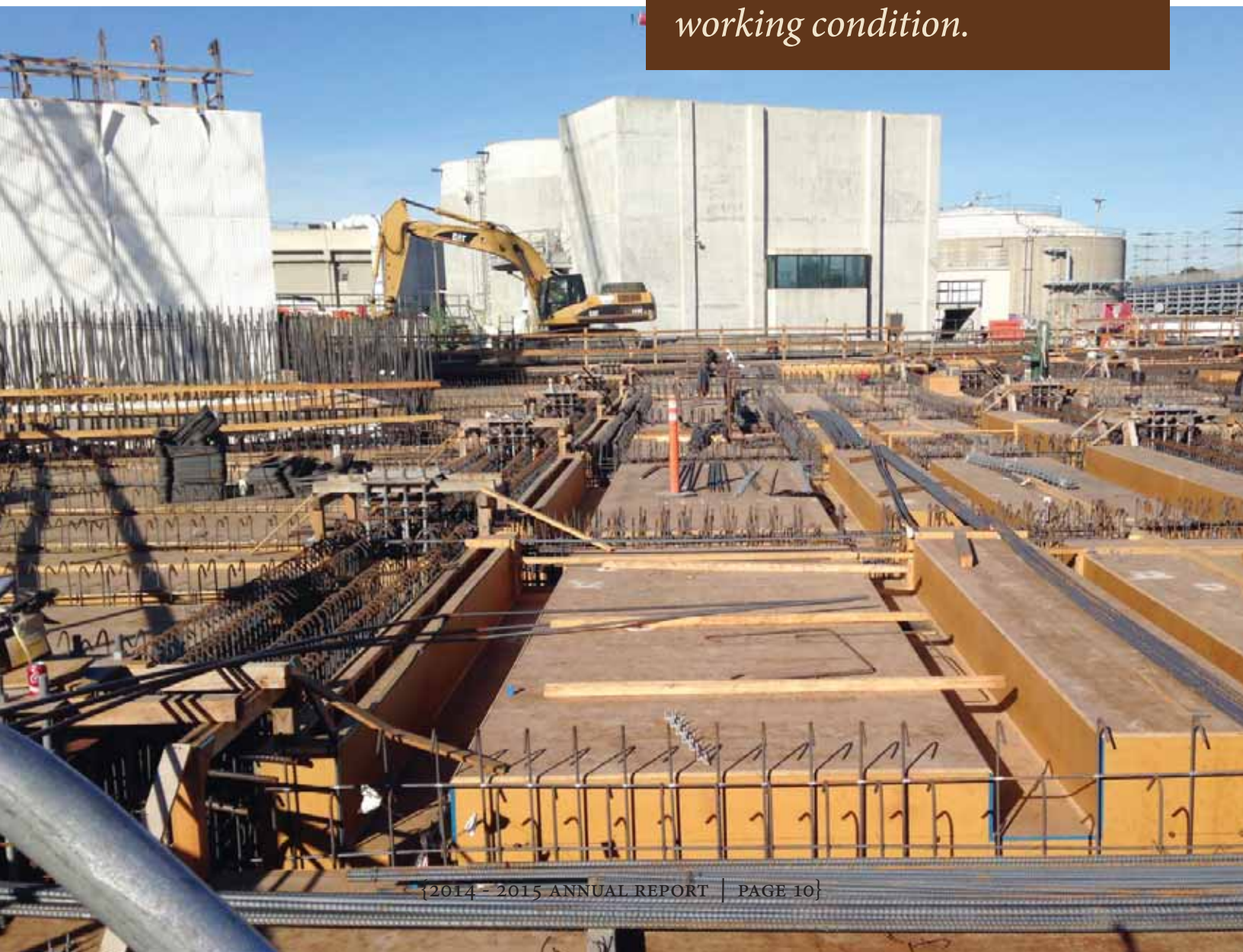


infrastructure reliability

OCSD owns, operates and maintains more than \$6.2 billion worth of assets including pipelines, pump stations, treatment systems, buildings and equipment. It is our duty and responsibility to ensure that every portion of the system is working at all times. To ensure this reliability, we must actively and consistently monitor, maintain, repair and replace the facilities.

After the completion of a \$537 million full secondary treatment expansion program in 2012, our Capital Improvement Program transitioned from increasing capacity and level of service to rehabilitation and replacement. In Fiscal Year 2014-15, OCSD spent \$172 million on over 90 projects to ensure infrastructure reliability for the residents, business owners and visitors in Orange County.

We are infrastructure managers — guaranteeing reliability with our pipelines and treatment systems, ensuring they are in good working condition.



Project Highlight

In Newport Beach, we developed a comprehensive program to coordinate various projects scheduled to take place in the city over the next few years. This program consists of five projects to upgrade the sewer system in Newport Beach to ensure long-term reliability.

Two of the projects, the Dover Drive Trunk Sewer Relief Project and Balboa Trunk Sewer Rehabilitation Project, were completed in 2014. A third project, the Newport Force Main Rehabilitation Project, which is rehabilitating and replacing parallel pipes in Pacific Coast Highway between Dover Drive and just west of Superior Avenue, is now more than half complete. This \$52.3 million project was sequenced in two phases to minimize public impacts by avoiding construction during the busy summer months. The second phase of this project began in September 2015 and will be completed by May 2016. The remaining two projects will be completed in future years.



OCSD maintains an extensive and active Community Outreach Program to ensure the community we serve is minimally impacted and well informed prior to any project starting.

Quick facts regarding outreach efforts on the Newport Force Main Project:

- 8 Community Meetings
- 45 Notifications to the Community
- Responded to over 350 inquiries regarding the project
- 37 Website and Social Media posts
- 14 Newspaper Articles



In addition to completing individual projects, OCSD updated the 10-year Capital Improvement Program. As a forward looking agency, we identified the projects and charted the course for OCSD to make sure we have the capacity and resiliency to meet the demands that are before us. OCSD's Capital Improvement Program builds and renews the infrastructure necessary to protect the public health and turn wastewater into valuable resources for those we serve.

financial sustainability

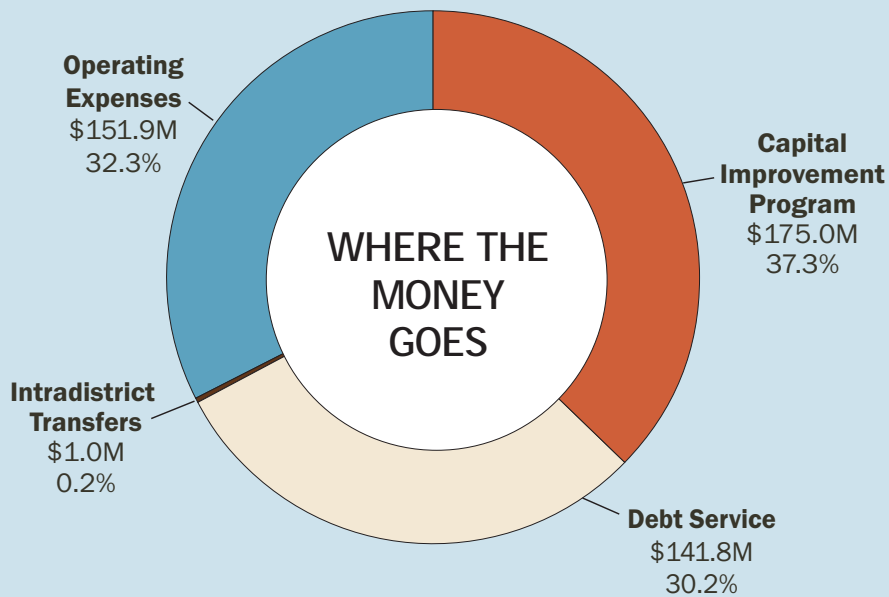
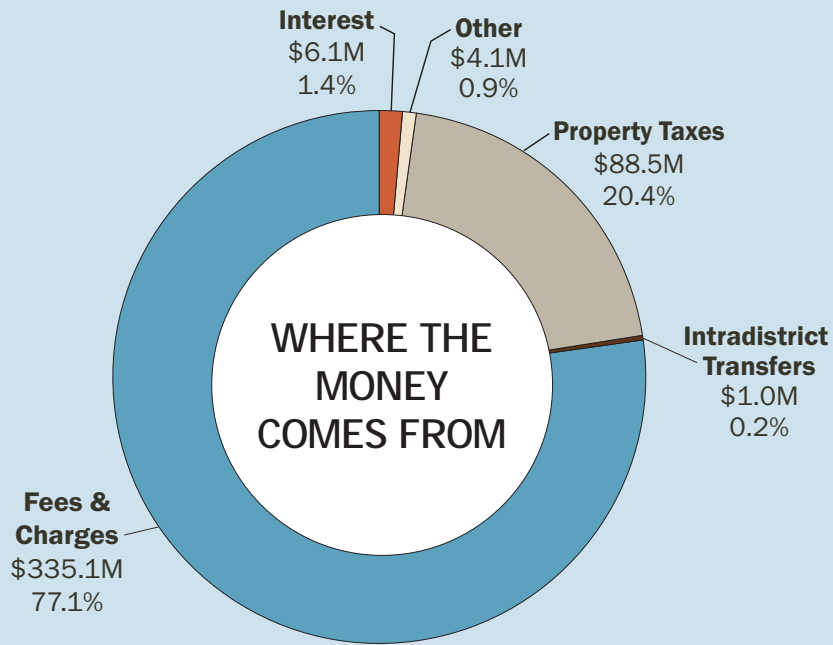
OCSD's financial standards ensure that we have the financial strength to provide the reliable and high-quality service that customers expect, and the stability to avoid unexpected rate spikes. This includes investment and financial practices that are resilient to economic downturns, changes in wastewater flows or environmental conditions, and natural disasters.

OCSD's financial practices and strong reserves have allowed OCSD to receive AAA bond ratings, the highest possible rating assigned by credit rating agencies. OCSD issues Certificates of Participation (COPs) to generate funds for capital improvement projects. The AAA rating demonstrates OCSD's exceptional degree of creditworthiness and financial stability, which means that it has access to low interest rates when financing infrastructure improvements.

One of OCSD's financial responsibilities includes supporting its pension obligations and any unfunded liabilities through the Orange County Employees Retirement System (OCERS). As a result of its strong financial foundation, OCSD was able to make an additional payment of \$125 million to reduce its Unfunded Actuarial Accrued Liability (UAAL) to approximately \$70 million. This payment will reduce the overall employer's contribution rate and payment by 33 percent, resulting in an annual savings of approximately \$6 million to OCSD's rate payers.

*We are
financial planners.*





Rating Agency	Rating	Outlook
Standard & Poors	AAA	Stable
Fitch	AAA	Stable

OCSD's sewer service fee rates remain in the bottom third of our comparable agencies in California and are still below the statewide average. OCSD's 2014/2015 sewer fee was \$0.87 a day.

operational optimization

In 2002, as a precautionary measure over concerns due to high bacterial levels at Huntington Beach, OCSD set voluntary limits for bacteria in its treated effluent prior to ocean discharge. Over the past two years, OCSD staff conducted a number of studies that documented a decline in the marine life in the sediment near OCSD's ocean outfall resulting from a build-up of disinfection byproducts.

We are an efficient organization while ensuring we deliver on our mission.

After reviewing several studies conducted by OCSD, the Santa Ana Regional Water Quality Control Board and United States Environmental Protection Agency concluded that OCSD's disinfection practices resulted in a slight but increasing degradation of the marine life near the ocean outfall. Additionally, the study found that disinfection provided no public health benefit to local beaches.

As a result, the these regulatory agencies gave OCSD their approval to cease disinfection of its ocean discharge on March 17, 2015. OCSD has initiated additional beach and ocean monitoring to further ensure the quality of our coastal waters after this change.

Ceasing disinfection will save OCSD approximately \$420,000 per year in chemical costs.



workforce

We take pride in our commitment to protect public health and the environment. With that commitment comes the responsibility to ensure we have the most capable, competent and hardworking employees available. Our employees are highly technical professionals with many holding advanced degrees and state issued certifications. We have a workforce made up of engineers, scientists, chemists, other skilled professionals and state certified operators and mechanics.

We must be trusted and transparent, our proposals must be compelling, and we must be engaged and familiar with the newest technology and the current trends. For these reasons, OCSD pursues public participation, which includes building collaborative relationships with elected officials, the community, industry leaders, and the engaged public. Outreach efforts are complemented with a strong legislative program that gives OCSD a voice in ensuring that future regulations and legislation create cost-effective value.

Because of the work that our employees do, we have some of the cleanest beaches in the State, provide the cleanest possible water for the world's largest water purification system of its kind, as well as generate enough power from our treatment process to power over two-thirds of our facilities, ultimately saving costs to our rate payers.

*We are your employees.
We are your neighbors.
We are industry leaders.*

OCSD's Microbiology laboratory was selected to be one of ten laboratories nationwide to participate in a study to determine if a new method of testing would be accurate enough to measure ocean samples for fecal indicator bacterium.

This new method of testing looks at new bacteria that do not grow in the presence of oxygen and do not live long in the environment, making them a much better indicator of fecal contamination than the bacteria that have been used for nearly one hundred years.

OCSD's Principal Microbiologist, Dr. Sam Choi, completed work on this study and the United States Environmental Protection Agency is still evaluating all of the participating laboratories data. It is likely that if this method is deemed to be an improvement over existing methods the United States Environmental Protection Agency will adopt this as a new compliance method. This new method would be the first such change in testing for bacteria to be implemented in over fifty years.



looking towards 2016

WATER — This year, OCSD was successful at obtaining a \$450,000 grant from the Bureau of Reclamation, to help fund a \$2 million effluent reuse study that will identify operational and treatment plant improvements necessary for OCSD to best support the final expansion of GWRS and move towards achieving OCSD's goal of 100 percent water recycling.

We are visionaries.

SOLIDS — We have embarked on a study to evaluate our digestion facilities in order to plan the next generation of solids processing. Included in the planning effort is a review of offsite biosolids management options that would complement OCSD's onsite approach. A final report is anticipated by the end of 2016.

ENERGY — Supercritical Water Oxidation may be the next big thing to convert sewage sludge to energy and sterile, phosphorous rich fertilizer. OCSD's Board of Directors authorized staff to pursue preliminary engineering services to scope a potential demonstration project for this promising, but experimental process. Many practical hurdles remain, but the new technology may offer a more simple process with a higher energy yield and lower residual tonnage than the conventional multistep digestion, gas treatment, engine/generator system used by most treatment plants.

EFFICIENCY — As a result of the efficiencies gained over the last year and the Board of Directors' prudent decision to reduce its long-term liabilities, OCSD has enhanced its strong financial position. As a result, the 2015-2016 Budget includes a reduction to the proposed sewer service fee rates for the next three fiscal years, reducing the total increases by 35 percent.



2014/15 Quick Facts

Biosolids recycled
275,943
tons per year

15
pump stations

2.5
million people
served

545,227
total number
of customer
accounts

587
miles of sewers

624
employees serving
our community

187
million gallons of
sewage treated
everyday

8,343
manholes

93
million gallons per
day of water provided
to OCWD to recycle.
Enough water for
600,000 people

11,000
kilowatt produced
each day

479
square-mile
service area

in the community

Community Outreach and Education

Education and awareness efforts about OCSD services and programs continued in 2014/15 through participation in over 50 community events and speaking engagements. These efforts resulted in reaching over 7,000 people who asked a broad range of questions and received information about the Orange County Sanitation District.



Only three things go down the drain – the three P's. Pee, Poop and (toilet) paper.

Tour Program Open to the Public

OCSD is committed to providing a valuable educational experience that focuses on learning the importance of wastewater treatment in protecting the public health and the environment. To encourage learning, OCSD offers a 90 minute tour that includes a video overview, discussion of the wastewater treatment process, and a bus tour of our facility.

OCSD hosted 3006 visitors on tours in 2015, up 13 percent from the previous year.

TOUR PASS

The Orange County Sanitation District provides wastewater treatment to more than 2.5 million residents in North and Central Orange County. We are the third largest wastewater facility West of the Mississippi River and treat over 207 million gallons of wastewater every day. Take a FREE tour of our Fountain Valley plant and learn more about wastewater treatment!

Go to ocsewers.com to redeem this voucher.



Community Education at a Glance

- 32 Community Events
- 20 Speaking Engagements
- 228 Tours
- Reaching over 10,000 people

Connect with us on Social Media



awards and accomplishments

2014 District Transparency Certificate of Excellence

-Special District Leadership Foundation

2015 Safety Award

-Water Environment Federation

10 Year Platinum Award

-National Biosolids Partnership

Excellence Award – Informational Technology Practices

-Municipal Information Systems Association of California

Plant No. 2 Headworks Replacement Project

*-Wastewater Treatment Project of the Year
Los Angeles Section of the American Society of Civil Engineers*

*-Outstanding Wastewater Treatment Project-
State of California American Society of Civil Engineers*

Santa Ana River Interceptor Relocation

*-Wastewater Conveyance Project of the Year
American Society of Civil Engineers*

*-2015 Award of Excellence
American Council of Engineering Companies
Orange County Chapter*

Construction Project of the Year - Newport Force Main

-American Society of Civil Engineers

-Orange County Engineering Council

California Water Environment Association

*-Operator of the Year- Esther Chang
Sana Ana River Basin Section of the California
Water Environment Association*

*-Safety Plant of the Year
Sana Ana River Basin Section of the California
Water Environment Association*

Certificate of Achievement for Excellence in Financial Reporting

*-Government Finance Officers Association of the U.S
and Canada*

American Graphic In-House Design Award - 60th Anniversary Annual Report

-Graphic Design USA Magazine

Leading Fleets No. 1 Mid-Size Fleet Award

-Government Fleet Magazine

2014 Top Fleet Government Programs in the U.S.

-Government Fleet Magazine

2015 Silver Award of Distinction - 60th Anniversary History Video

-Communicator Award

2015 Silver Award of Distinction - 2013-14 60th Anniversary Annual Report, Overall Design

-Communicator Award

2014 Annual Achievement of Excellence in Procurement Award

-National Procurement Institute

Peak Performance Award for Plants No 1 and No 2 for complete and consistent National Pollutant Discharge Elimination System Permit Compliance

-National Association of Clean Water Agencies

board of directors

Anaheim.....	<i>Lucille Kring</i>	Los Alamitos.....	<i>Richard Murphy</i>
Brea	<i>Glenn Parker</i>	Member of the Board of Supervisors	<i>Lisa Bartlett</i>
Buena Park.....	<i>Fred Smith</i>	Midway City Sanitary District.....	<i>Tyler Diep</i>
Costa Mesa Sanitary District	<i>James M. Ferryman</i>	Newport Beach.....	<i>Keith Curry</i>
Cypress	<i>Mariellen Yarc</i>	Orange.....	<i>Teresa Smith</i>
Fountain Valley.....	<i>Steve Nagel</i>	Placentia	<i>Chad Wanke</i>
Fullerton.....	<i>Greg Sebourn</i>	Santa Ana	<i>Sal Tinajero</i>
Garden Grove.....	<i>Steve Jones</i>	Seal Beach.....	<i>Ellery Deaton</i>
Huntington Beach	<i>Jim Katapodis</i>	Stanton.....	<i>David Shawver</i>
Irvine.....	<i>Steven Choi</i>	Tustin.....	<i>John Nielsen</i>
Irvine Ranch Water District	<i>John Withers</i>	Villa Park	<i>Greg Mills</i>
La Habra.....	<i>Tom Beamish</i>	Yorba Linda Water District	<i>Robert Kiley</i>

Executive Management Team

General Manager, *James Herberg*

Assistant General Manager, *Robert Ghirelli*

Director of Engineering, *Robert Thompson*

Director of Administrative Services, *Lorenzo Tyner*

Director of Operations, *Edward Torres*

Director of Facility Support Services and Maintenance, *Nicholas Arhontes*

General Counsel, *Brad Hogin*



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